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Texting, sexting, and attachment in college students' romantic relationships

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ABSTRACT

In this study, we explored how texting and sexting practices are related to attachment in college students' ($n = 744$) committed romantic relationships. Participants completed a survey containing questions about their texting and sexting practices and attachment styles with relationship partners. Results showed that texting and sexting are relatively common in young adult romantic relationships, and texting and sexting are both significantly related to attachment style. However, whereas text messaging was more common among those with secure attachments (i.e., those with less attachment avoidance), sexting (both texts and pictures) was more common among those with insecure attachments, particularly those with higher attachment avoidance. Whereas anxious attachment predicted variance in sending sex text messages only, attachment avoidance contributed unique variance in sending both sex texts and pictures. This relationship was moderated by gender—avoidant men were more likely than avoidant women to send sex text and picture messages to relationship partners.

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1. Introduction

In this fast-changing landscape of interpersonal communication, mobile technologies are increasingly being used to forge and sustain social relationships (Gross, 2004; Lenhart et al., 2010; Lewis & Fabos, 2005; Licoppe, 2004; Van Kleemput, 2010). More specifically, text messaging is beginning to dominate the landscape of interpersonal communication, having surpassed voice calls in popularity, especially among teenagers and young adults (Lenhart et al., 2010; Nielsen Online, 2009). Although some researchers have focused on the positive aspects of these new technologies in the facilitation of social relationships (Lewis & Fabos, 2005; Licoppe, 2004), numerous media accounts have portrayed the impact of these technologies in a negative light. For example, reporters have suggested that a "texting craze" has gripped the US (Visco, 2008). More recent media reports have been even more distressing, suggesting that sexting (sending sexually explicit messages via text or picture messages) is "shockingly common among teens" (CBS News, 2009). And these headlines have not escaped the attention of local authorities, who, in some cases have charged teens with criminal possession and distribution of child pornography for possessing or forwarding nude pictures (Brunker, 2009).

Although a great amount of attention (often negative) has been devoted to texting and sexting, there has been relatively little discussion about the normality of these behaviors within the current

climate of interpersonal relationships. Clearly, texting is popular: 72% of all teens report that they use text messaging, and those that are text messaging report sending approximately 3000 texts per month (Lenhart et al., 2010). However, studies examining the social and psychological characteristics of those who engage in texting are just beginning to emerge (Ishii, 2006; Jin & Peña, 2010; Pierce, 2009; Reid & Reid, 2010). Sexting appears to be relatively less common: a recent survey of sexting behaviors revealed that 20% of teens (13–19) and 31% of young adults (20–26) have sent or posted sexually explicit picture messages (The National Campaign, 2008). Policymakers have just recently begun to address the pervasiveness and severity of this issue among minors. For example, the California State Senate has recently passed a no-sexting bill (SB919) that allows for expulsion of students who engage in sexting on school property or on the way to or from school (Lee, 2011). However, there have been few empirical studies that have examined either the prevalence of sexting in adults or the psychological or social characteristics of adults who send sex messages. The only known study on the latter topic is a very recent study by Weisskirch and Delevi (2011). These researchers examined sexting as it relates to attachment characteristics, which is a promising line of inquiry that has shed some light on the motivations behind sexting. However, due to their limited sample size and the few men that were involved in the study ($n = 22$), the generalizability of their results is limited.

Early attempts to define and delineate attachment styles were based on infants' attachment to their primary caregivers (Ainsworth et al., 1978), but an increasingly wide body of research has examined the concept of attachment with regard to adult relationships (Brennan et al., 1998; Bartholomew & Horowitz, 1991; Hazan & Shaver, 1987; Mikulincer & Shaver, 2003, 2007). Within this research,

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attachment was originally defined categorically—individuals were described as secure, anxious, or avoidant based on their response patterns (Ainsworth et al., 1978; Hazan & Shaver, 1987). In contemporary research, a model based on the two orthogonal dimensions of *anxiety* and *avoidance* (Brennan et al., 1998) is most widely used.

Within the context of romantic relationships, those who exhibit *anxious attachment* demonstrate both an intense desire for closeness and an intense fear of abandonment or separation. Anxiously attached individuals are also likely to seek approval from others and feel distressed when their needs for proximity to their partners are unmet. Meanwhile, those who exhibit *avoidant attachment* have a fear of dependence, self-disclosure, and intimacy, choosing to be self-reliant and independent, even within the context of close relationships. According to Mikulincer and Shaver (2003, 2007), these different attachment styles give rise to different relationship strategies. Highly anxious individuals tend to employ “hyperactivating” strategies, or attempts to draw their partner closer, in response to their fears of losing their partner’s interest. Meanwhile, highly avoidant individuals employ “deactivating” strategies, or attempts to distance themselves from partners so that they are neither dependent on nor relied upon for emotional support.

Although few known studies have examined the relationships between *text messaging* and relationship characteristics, specific directional predictions about text messaging and attachment can be made based on the existing communication literature. Research has shown that mobile phones support a connected presence, which would be useful in sustaining close, committed relationships (Licoppe, 2004). With regard to text messaging specifically, studies have shown that text messaging helps to strengthen bonds and foster intimacy, mainly within existing dyadic relationships (Hian et al., 2004; Ishii, 2006). However, texting is viewed by some as a less intimate form of communication than voice calls (Reid & Reid, 2010), and those who prefer voice calls to communicate with relationship partners tend to have higher levels of intimacy (Emmers-Sommer, 2004), love, and commitment, and lower levels of relational uncertainty (Jin & Peña, 2010). Thus, text messaging would probably be used less often among those with insecure attachment styles, either because of a need for greater certainty in their relationship (anxiously-attached individuals) or an aversion to intimacy within the relationship (avoidantly-attached individuals). In contrast, among those with secure relationship styles, text messages would likely be used more often, to sustain relationship bonds and foster intimacy.

With regard to *sexting*, recent work has shown a positive relationship between sexting behaviors and attachment anxiety within the context of relationships (Weisskirch & Delevi, 2011). Weisskirch and Delevi (2011) found that attachment anxiety was related to propositioning sex in messages, but this relationship was significant only among those in relationships, and attachment style did not relate significantly to any other sexting behaviors (e.g., sending a sexually suggestive text message or nude photo). In their conclusions, the authors hypothesized that anxiously-attached individuals might use sexting as a means to elicit a response or seek reassurance from their partners. This corresponds to research that suggests that anxiously-attached individuals may use sex to gain reassurance that their partner is emotionally invested in the relationship (Davis et al., 2004). However, because of the limited number of people in the study ($N = 128$), the even smaller proportion in relationships (58%), and the predominance of women in the sample ($n = 106$), it is not known whether the non-significant relationships found between anxious attachment and sexting behaviors are a result these sample limitations, or if the results are generalizable to larger, more representative samples of people who are in relationships. Thus, a goal of this study was to confirm this association between sexting behaviors (within relationships) and anxious attachment in a larger sample that includes more men.

Interestingly, there were no significant relations found between sexting and avoidant attachment in the Weisskirch and Delevi (2011) study. Attachment literature would suggest that sexting would be appealing to those with attachment avoidance, who may engage in more frequent sexual activity, especially casual sex (Brennan & Shaver, 1995; Feeney & Noller, 1990; Feeney et al., 1993; Gentzler & Kerns, 2004; Schmitt, 2005). Casual sex allows individuals to have sexual experiences without commitment or attachment. Those with secure attachments usually prefer to have sex within the context of committed relationships (Brennan & Shaver, 1995) as an expression of the emotional intimacy they feel for their partners (Tracy et al., 2003). However, those who are avoidantly attached do not necessarily associate physical and emotional intimacy (Gentzler & Kerns, 2004; Mikulincer & Shaver, 2007; Schachner & Shaver, 2004; Schmitt, 2005), which makes casual sex, an act devoid of emotional intimacy or attachment, more appealing. For those in committed relationships, sexting might be the sexual interaction that most closely resembles casual sex, because partners maintain a physical distance, and the interchange requires very little emotional attachment or intimacy. Therefore, sexting would allow individuals with avoidant attachments to engage in sexual acts with partners without investing either physical or emotional intimacy.

The non-significant relationships between sexting and avoidant attachment in the Weisskirch and Delevi (2011) study might be attributable to the gender distribution of the participants. In their study, only 22 of the total participants were men. It is very likely that gender plays a moderating role in the relationship between sexting and attachment because there appear to be gender differences in both attachment styles and the ways in which attachment relates to sexual behaviors. The differences between men and women that are most relevant to the present study relate to attachment avoidance and their attitudes toward casual sex and masturbation. More specifically, men tend to be more avoidant, have more positive views of casual sex and masturbation, and at least among college students, are more likely to agree to have casual sex than women (Bartholomew & Horowitz, 1991; Brennan et al., 1998; Clark & Hatfield, 1989; Peterson & Hyde, 2010). As mentioned, sexting, because it requires little emotional investment, could be considered a form of casual sex. Additionally, sexting, like other forms of cybersex, may include masturbation (Cooper & Griffin-Shelley, 2002). Considering these findings together, we expect the relations between sexting and attachment avoidance to be particularly strong for men.

1.1. The present study

In this study, we explored the relations between text messaging, sexting, and attachment styles within college students’ romantic relationships. Based on previous surveys of young adult samples in the US, we hypothesized that both texting and sexting would be relatively common in the relationships of young adults. Additionally, based on the attachment literature, we hypothesized texting and sexting frequency within relationships would be related to attachment style. More specifically, we expected anxious and avoidant attachment to be negatively related to sending text messages to relationship partners. For those with anxious attachments, text messages may be viewed as a less intimate form of communication than others (e.g., voice calls), and for those with avoidant attachments, text messages might be viewed as creating a connected presence, which these individuals would want to avoid. In contrast, we expected anxious and avoidant attachment to be positively related to sending sex messages to relationship partners. For anxiously-attached individuals sexting could be used as a hyperactivating strategy or a reassurance-seeking behavior (Weisskirch & Delevi, 2011), and for avoidantly-attached individuals, sexting

could be used as a form of casual sex. As the definition of online sexual activity includes using either text or graphics for sexual purposes (Cooper & Griffin-Shelley, 2002), we included questions about both sexually explicit text and picture messages. However, because these actions require different kinds of self-disclosure (e.g., only picture messages involve disclosure of physical features), we analyzed them separately to determine if there were any differences in either frequency of the behavior or the relationship between these behaviors and attachment styles. Finally, we expected gender to moderate the relationship between attachment and sexting, especially for attachment avoidance.

2. Method

2.1. Participants

The sample consisted of 744 college students (233 men and 511 women) from a medium-sized university in the midwestern United States. Participants were recruited from introductory psychology classes during two consecutive semesters and received a research credit for participation. From a larger sample ($N = 878$), only those participants indicating that they had been in a committed relationship were included in this study. The average length of the committed relationship was 2 years, 4 months ($SD = 30.42$ months); 485 (65%) specified that the relationship was current; 257 (35%) specified that it was a past relationship; and two participants did not specify whether it was a current or past relationship. For those who were reporting on a past relationship, the past relationship ended within the last year and a half (on average), which is well within the time period of availability of text message technologies. Participants ranged in age from 18 to 36 ($M = 20.50$, $SD = 3.67$) and were largely Caucasian (85% White (Non-Hispanic); 7% African American; 3% Hispanic; 2% Asian; and 2% Biracial or other ethnicity) and unmarried (82% were unmarried, 6% married, 2% divorced, and 9% living with a significant other). They were mostly in their first year of undergraduate study (75% first year, 19% second year, 5% third year, 2% fourth year) and reported various major fields of study (more than 48 different majors were represented). The average number of text messages sent per month (to all persons) was 2298 ($SD = 3181$; Range 0–30,000).

2.2. Procedure

All participants completed online consent forms and were then given access to an online anonymous survey. The first part of the survey consisted of basic demographic questions as well as questions related to the participants' general use of communication media (e.g., texting, Facebook, and phone). The second part of the survey consisted of several intimacy and attachment scales, which included questions related to attachment in romantic relationships. The final part of the survey contained questions regarding texting, sexting, and preferences for sexual communication in the context of close committed relationships and in the context of casual sexual relationships. Only the data related to participants' close, committed relationships are reported here.

2.3. Measures

2.3.1. Attachment

As a measure of attachment, participants completed the 12-item short form of the Experiences in Close Relationships scale (ECR; Wei et al., 2007). The ECR measures attachment in relationships along two dimensions: anxious (e.g., "I need a lot of reassurance that I am loved by my partner") and avoidant (e.g., "I try to avoid getting too close to my partner"). Participants rate their level of agreement with each statement on a 7-point Likert scale (rang-

ing from 1 = *disagree strongly* to 7 = *agree strongly*). Higher scores indicate higher levels of anxious or avoidant attachment in close relationships (Anxious $\alpha = .72$; Avoidant $\alpha = .85$).

2.3.2. Texting and sexting practices

Participants answered questions regarding the frequency with which they sent text messages, "sexually explicit text messages," and "sexually explicit picture and video messages" to relationship partners. Participants were asked to report the frequency of these behaviors within their "most significant (either current or past) committed relationship." They were further informed "this would be a person with whom you shared an intimate relationship, like a serious boyfriend or girlfriend, and would NOT be just a casual fling or person with whom you were involved only sexually." The participants responded to the texting and sexting statements on a 6-point Likert scale (ranging from 0 = *never* to 5 = *very frequently*).

3. Results

The major goals of this study were to examine the prevalence of texting and sexting in young adult romantic relationships and analyze the associations between texting, sexting, and attachment styles within these relationships. As a preliminary analysis, we examined the associations between sociodemographic variables (age, length of time in relationship, and marital status—ever (1) or never (0) married) with regard to our texting and sexting frequency measures. All three variables were significantly related to sending text messages (age: $r = -.21$, $p < .01$; length of time in relationship: $r = -.20$, $p < .01$; and marital status: $r = -.20$, $p < .01$), but none were significantly related to sending sex text or sex picture messages; therefore, these variables were included in subsequent regression analyses as control variables for texting only.

Additionally, one of our hypotheses was that the relationships between texting, sexting, and attachment might be moderated by gender. Therefore, as a preliminary analysis, we examined whether men and women were significantly different in the variables of interest. As shown in Table 1, men and women reported sending text and sex messages with relatively equal frequency. With regard to attachment, women scored higher on anxious attachment, but not significantly so, and men scored significantly higher in attachment avoidance. Thus, gender was included as a moderating variable in the subsequent sexting analyses.

3.1. Prevalence of texting and sexting in romantic relationships

To examine prevalence of texting and sexting within our entire sample, we asked participants to indicate how frequently they sent text, sex text, and sex picture messages to their relationship partners. Table 2 shows the distribution of these frequencies. Not surprisingly, most of the sample (98%) had sent text messages to their relationship partners. A smaller majority also reported sending sexually explicit text messages (67%) and sending sexually explicit pictures or videos (54%) to their relationship partners more than

Table 1

Means, standard deviations, and significant differences between men and women for texting, sexting, and attachment measures.

Measure	Men <i>M</i> (<i>SD</i>)	Women <i>M</i> (<i>SD</i>)	<i>t</i> (744)	<i>d</i>
Send text messages	4.95 (1.05)	4.92 (1.20)	0.39	0.03
Send sex picture messages	2.29 (1.44)	2.30 (1.44)	−0.17	−0.01
Send sex text messages	2.64 (1.39)	2.57 (1.40)	0.66	0.05
ECR Anxious	3.58 (1.25)	3.64 (1.22)	−0.64	−0.05
ECR Avoidance	2.58 (1.19)	2.25 (1.17)	3.55**	0.28

Note. * $p < .05$.

** $p < .01$.

Table 2

Number and (percentage) of participants who indicated sending text, sex text, and sex picture messages to relationship partners.

Variable	Never	Very rarely	Rarely	Occasionally	Often	Very often
Send text	16 (2.1%)	27 (3.6%)	29 (3.9%)	115 (15.4%)	293 (39.4%)	265 (35.6%)
Send sex text	245 (32.9%)	137 (18.4%)	100 (13.4%)	202 (27.1%)	57 (7.7%)	4 (0.5%)
Send sex pictures	342 (45.9%)	110 (14.8%)	79 (10.6%)	163 (21.9%)	40 (5.4%)	11 (1.5%)

never. Thus, with regard to our first research question of interest, most individuals in our sample had engaged in both text and sex messaging with their relationship partners. Although they engaged in text messaging with greater frequency, almost 1/3 of the sample had engaged in sex messaging with their relationship partner at least occasionally. Thus, text and sex messaging appear to be relatively common within the committed relationships of young adult college students, and our hypothesis was supported.

3.2. Texting, sexting, and attachment

To determine whether texting and sexting behaviors were related to attachment, we first conducted zero-order correlational analyses. See Table 3 for the descriptive statistics for these measures and their zero-order correlations.

As the attachment measures were significantly related to texting and sexting behaviors, we also conducted a series of hierarchical forced-entry regressions to explore the unique contributions these variables to texting and sexting, including gender as a moderator. As suggested by Aiken and West (Aiken & West, 1991), we centered non-categorical predictor variables on their means, and we dummy coded men as +1 and women as −1. For the sexting measures, we entered gender as control variable in the first step. In the second step, we entered the attachment variables (anxious and avoidant measures) to measure the unique contribution of attachment style to sexting behaviors. In the third step, we entered the interactions between attachment style and gender (anxious by gender and avoidant by gender) as we hypothesized that gender might moderate the relationship between attachment and sexting, especially for attachment avoidance. For the texting measure, we entered age, gender, length of relations, and marital status as control variables in the first step and then proceeded with the next two steps.

3.2.1. Texting and attachment

As shown in Table 4, a significant model emerged for texting, predicting 7% of the variance in sending text messages. Of the attachment variables, only attachment avoidance emerged as a significant predictor of texting; those with higher attachment avoidance were less likely to text their partners. Thus, our hypothesis was partially supported. Age and length of relationship also

Table 3

Correlations between and descriptive statistics for participants' reported texting, sexting, and attachment styles.

	1	2	3	4	5
1. Send text	–				
2. Send sex picture	.07*	–			
3. Send sex text	.19**	.72**	–		
4. Anxious Attachment	−.04	.09**	.11**	–	
5. Avoidant Attachment	−.10**	.13**	.11**	−.58**	–
<i>M</i>	4.93	2.59	2.30	3.62	2.35
<i>SD</i>	1.15	1.40	1.43	1.23	1.18

Note. For texting and sexting measures (measures 1–3), participants answered on a scale of 0–5. For attachment (measures 4 and 5) participants answered on a scale of 1–7.

* $p < .05$.** $p < .01$.**Table 4**Hierarchical regression analyses for sending text messages as a function of attachment style and attachment \times gender.

Variables	<i>B</i>	<i>SEB</i>	β	ΔR^2
Step 1				.05**
Age	−.05	.01	−.16**	
Gender	.02	.04	.01	
Length of relationship	.00	.00	.00	
Marital status	−.40	.17	−.10*	
Step 2				.01**
Anxious	−.03	.03	−.03	
Avoidant	−.09	.03	−.10*	
Step 3				.01**
Gender \times anx	.03	.04	.03	
Gender \times avoid	−.03	.04	−.03	
Total				.07**

Note. Gender: −1 = Women; 1 = Men. Anx = Anxious; Avoid = Avoidant. Marital status −1 = Never Married; 1 = Married.

* $p < .05$.** $p < .01$.

contributed uniquely to the variance in texting; those who were older and in relationships longer reported sending fewer text messages to relationship partners.

3.2.2. Sexting and attachment

As shown in Table 5, significant models also emerged for sexting. In this case, the models predicted 3% and 4% of the variance in sending sex text and picture messages, respectively. Although a small amount of variance was accounted for by our predictor variables, the model was significant, and the fact that attachment styles emerged as significant predictors as we predicted is a notable finding. Both attachment anxiety and attachment avoidance were significant predictors of sending *sex text* messages; however only attachment avoidance emerged as a predictor of *sex picture* messaging. In all cases, and in line with our hypotheses, those with anxious or avoidant attachments were *more likely* to send sex messages.

3.2.3. Gender as a moderator between sexting and attachment

With regard to the interaction effects, gender emerged as a moderator between avoidant attachment and sexting, as predicted. For

Table 5Hierarchical regression analyses for sending sex text and picture messages as a function of attachment style and attachment \times gender.

Variables	Sending sex texts				Sending sex pictures			
	<i>B</i>	<i>SEB</i>	β	ΔR^2	<i>B</i>	<i>SEB</i>	β	ΔR^2
Step 1				.00				.00
Gender	.02	.04	.02		.00	.04	.00	
Step 2				.02**				.02**
Anxious	.08	.03	.09*		.05	.03	.06	
Avoidant	.09	.03	.09*		.11	.03	.12**	
Step 3				.01**				.02**
Gender \times anx	−.05	.04	−.05		−.08	.04	−.08	
Gender \times avoid	.11	.04	.11**		.14	.04	.13**	
Total				.03**				.04**

Note. Gender: −1 = Women; 1 = Men. Anx = Anxious; Avoid = Avoidant.

* $p < .05$.** $p < .01$.

both sending sex texts and sex pictures, the interaction effect was significant for gender \times avoidance. Simple slope analyses showed that the associations for sex text messaging and avoidance were stronger for men ($\beta = .34, p < .001$) than for women ($\beta = .10, p < .05$), and associations between sex picture messaging and attachment avoidance were also stronger for men ($\beta = .43, p < .001$) than for women ($\beta = .13, p < .01$). In other words, avoidant men were more likely to send sex messages to relationship partners than avoidant women. Meanwhile, the predictive relationships for attachment anxiety \times gender just missed reaching significance for sending sex pictures ($p = .051$). In this case, the relationship was nearly significant for women, but not for men.

4. Discussion

In our current landscape of technological communication, it has become increasingly common for young adults to navigate their social relationships via technology, such as text messaging. Thus, it is not surprising that recent studies (The National Campaign, 2008; Weisskirch & Delevi, 2011) have found that teens and young adults are using these technologies to navigate their sexual relationships, via sexting. However, little research has examined the psychological characteristics that underlie these behaviors. In a recent study by Weisskirch and Delevi (2011), researchers examined sexting within a framework of attachment theory, which proved to be a promising line of inquiry. In their study, they found that attachment anxiety was related to propositioning sex, but only for those in relationships.

In this study, we expanded upon the Weisskirch and Delevi (2011) study, by including a larger sample with more men. Because attachment theory relates mainly to attachment within relationships, we directed our inquiry towards those who were or had been involved in a serious, committed relationship, and we asked them to report the frequency of their texting and sexting behaviors within the context of that relationship. We also extended our inquiry to include both text messaging and sex messaging, as we hypothesized that both means of communication within relationships (non-sexual and sexual) would be related to attachment style.

With regard to *texting and attachment*, our results give some insight into the psychological characteristics of those who use text messaging as a means of communicating with relationship partners. Correlational analyses showed that both insecure attachment styles (avoidant and anxious) were negatively related to sending text messages, but this relationship was significant only for avoidant attachment. Further, in our regression analysis, attachment avoidance emerged as a predictor of sending text messages to relationship partners, even after controlling for age, length of relationship, and marital status. This finding aligns with one of our proposed hypotheses—that those who are avoidantly attached, who fear intimacy and want to avoid self-disclosure and dependence, would text their partners less frequently because they want avoid activities that sustain proximity and build intimacy. However, our other hypothesis—that those with anxious attachment would text message relationship partners less frequently because it is a less intimate form of contact—was not supported. There was a negative relationship between attachment anxiety and texting within relationships, but the relationship was not significant. This may be because those with anxious attachments use text messaging as a substitute for more intimate forms of communication (e.g., voice calls or face-to-face conversations) when these interactions are not possible. This is a direction for future research. Considered together, our analyses show that text messaging between relationship partners is associated with more secure relationship styles. Future studies should consider how relationship partners use text messaging as compared to other emerging technologies

(e.g., Facebook messages) and how these different methods of communication relate to attachment style.

With regard to *sexting and attachment*, our findings align reasonably well with our original hypotheses. Those with anxious and avoidant attachment styles engaged in sexting with relationship partners more frequently; however, in regression analyses, only attachment avoidance was a significant predictor of sending both sex texts and pictures. Anxious attachment emerged as a significant predictor for sending sex texts only, but once gender was considered as a moderator, attachment anxiety was a predictor for sending sex pictures for women only (this relationship just missed reaching significance). Meanwhile, men who were avoidant were more likely to send sex texts and pictures. These findings differ from results reported by Weisskirch and Delevi (2011), who found that only attachment anxiety was significantly related to sexting behaviors. The differences between these findings highlight the need to examine sexting behaviors *within relationships* in larger samples of individuals where the gender distribution is not as skewed and to examine gender as a moderating variable.

Overall, our findings with regard to attachment avoidance are in line with our predictions—that those with attachment avoidance were more likely to engage in sexting, just as they are more likely to engage in casual sex (Brennan & Shaver, 1995; Feeney et al., 1993; Gentzler & Kerns, 2004) and be prone to sexual addiction (Zapf et al., 2008). It is therefore possible that sexting is a form of casual sex and/or a symptom of sexual addiction. It is also possible that those with avoidant attachments are using sexting as a deactivating strategy, engaging in sexual interactions devoid of physical intimacy because they want to keep their partners at a distance. This might be particularly appealing to the avoidantly-attached individuals who want to avoid sex (Cooper et al., 1998; Gentzler & Kerns, 2004), who might view sexting as a palatable alternative to physical sex because they are averse to physical intimacy or normative sexual behavior (Brennan et al., 1998). To determine whether relationships between sexting, casual sex, sexual addiction, or sex avoidance exist and whether these relationship strategies are active during sexting, further quantitative and qualitative studies will be necessary. This study provides a preliminary direction for this research.

4.1. Limitations and conclusion

The most notable limitation of this study is the relatively small amount of variance in texting and sexting that the attachment variables predicted. Although the effects were significant, with a sample size this large, these significant effects are rather easily detected. Because the significant effects aligned with our predictions, our results are meaningful from a theoretical standpoint. That said, clearly, other variables aside from attachment are predicting texting and sexting behaviors with relationship partners. Fortunately, the aims of this study were not to explain texting and sexting in their entirety, but rather to begin to explore the variables that relate to these behaviors. So that we can develop useful models of texting and sexting, future studies should include measures of other types of personality characteristics that may be related to these behaviors, such as self-esteem, loneliness, and impulsivity. An additional limitation is that our measures may not have been sensitive enough to capture the complexity of the texting and sexting behaviors and interactions. For example, our texting and sexting measures were direct, single-item questions. These single-item measures do not allow for reliability analyses, and it is probable that both texting and sexting are multi-dimensional behaviors that need to be measured with multiple items. Therefore, future studies should include multi-item measures of texting and sexting behavior.

Another limitation relates to honesty for the self-report measures: it is possible that the participants did not provide accurate

or honest reports of their texting and sexting behaviors. In particular, it seems probable that some people would be hesitant to report that they sent sex pictures and texts, because sexting is controversial and assumed to be non-normative. It would be useful to include different methods of self-report, such as participants providing their own definitions for and frequencies of text and sex messaging. Finally, this study examined texting and sexting within a college sample and only within the context of close, committed relationships. Although these college students may be representative of most American young adults, this limits the generalizability of the findings. Additionally, although we believe it would be meaningful to examine these behaviors within the context of different types of relationships (e.g., friendships and casual sexual relationships), this was not the aim of this study. Future work will include comparisons of texting and sexting behavior within close committed relationships and within casual sexual relationships.

Despite these limitations, this study extends our knowledge of the interactions that occur within contemporary romantic relationships of young adults. Mobile communication appears to play a large role in young adults' romantic relationships. However, although texting appears to be related to secure attachment patterns, sexting is related to insecure attachment patterns, especially attachment avoidance among men. As teens and young adults navigate their relationships in this changed social landscape, it is important that they be aware of the personality and relationship characteristics that underlie their actions. Moreover, from a legal and educational policy standpoint, understanding these interactions may help policymakers and school administrators develop intervention strategies that target the underlying motivations behind these behaviors.

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